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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/373,585	08/13/1999	NOBUHIKO OGURA	Q55432	2737

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SUGHRUE MION ZINN MACPEAK & SEAS
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WASHINGTON, DC 200373202

EXAMINER

LU, FRANK WEI MIN

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/373,585

Applicant(s)

OGURA, NOBUHIKO

Examiner

Frank W Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,7 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6,7 and 21-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5/2004. 6) ☐ Other: _____

DETAILED ACTION

Response to Appeal Brief

1. In view of the appeal brief filed on September 12, 2006, **PROSECUTION IS HEREBY REOPENED**. New rejections are set forth below. The claims pending in this application are claims 6, 7, and 21-33. Rejection and/or objection not reiterated from the previous office action are hereby withdrawn.

To avoid abandonment of the application, applicant must exercise one of the following two options:

file a reply under 37 CFR 1.111; or
request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131, or 1.132) or other evidence are permitted. See 37 CFR 1.93 (b) (2).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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3. Claims 6, 7, 21, 22, 25-29, and 31-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Stimpson (US Patent No. 6,037,186, filed on July 16, 1997).

Stimpson teaches parallel production of high density arrays.

Regarding claims 6, 22, 25, and 29, since Stimpson teaches that an automated device to apply the multitude of reagents to a 21.5 foot sheet is assembled from an X-Y-Z table (e.g. Asymtek) fitted with a reagent dispenser, a step motor controlled take up spool and an adjustable drag pay-out spool (see column 8, third paragraph and Figure 2C), Stimpson discloses a conveyor recited in claim 6. Since Stimpson teaches that the roll of membrane is fed through guides on the X-Y-Z table surface and Y table of the automated device is flat (see column 8, third paragraph and Figure 2C), Stimpson discloses the apparatus (ie., the automated device) comprising a flat surface accommodating the sheet-like substrate as recited in claim 29. Since Stimpson teaches that, using reagent jet printing, lines of different DNA samples such as cDNA libraries are applied to the sheet in lines or otherwise a pin applicator so that multiple dots from the pin overlap to form a line wherein the different reagent lines on the sheet are formed as close together as possible and with minimum line width allowed by the printing method so that array density is maximized (column 7, lines 19-48, column 8, third paragraph and Figure 2A), Stimpson discloses a plurality of applicators (ie., reagent dispensers) as recited in claim 6 and 25. Since the sheet with different DNA sample is cut with a razor blade (for example, see column 14, last paragraph), Stimpson discloses a cutting means as recited in claim 6. Although Stimpson does not specially indicate that their apparatus can perform the functions of the apparatus recited in claims 6 and 22, note that, while features of an apparatus may be recited either structurally or functionally, the claims directed to an apparatus must be distinguished from the prior art in terms

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of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device is, not what a device does." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (see MPEP 2114).

Regarding claims 7, 21, 27, 28, and 31-33, since claim 6 is directed to an apparatus for manufacturing a test piece for use in biological analysis of a sample organism comprising a strip-like substrate bearing thereon numbers of known specific binding agents which are different from each other and are arranged in a line at predetermined intervals in the longitudinal direction of the strip-like substrate, the test piece recited in claim 6, the binding agents recited in claims 6, 7, 21, 27, and 31, and the strip-like substrate recited in claims 6, 21, 28, 31, and 32 are not parts of the apparatus as recited in claim 6, and claims 7, 21, 27, 28, 31, and 32 are used to further limit the binding agents and the strip-like substrate recited in claim 6, claims 7, 21, 27, 28, 31, and 32 are anticipated by Stimpson. Since a strip-like substrate is not a part of the apparatus as

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recited in claim 6 and claim 33 is used to further limit a first direction in claim 6, claim 33 is anticipated by Stimpson.

Regarding claim 26, since Stimpson teaches that an automated device to apply the multitude of reagents to a 21.5 foot sheet is assembled from an X-Y-Z table (e.g. Asymtek) fitted with a reagent dispenser, a step motor controlled take up spool and an adjustable drag pay-out spool (see column 8, third paragraph and Figure 2C), Stimpson discloses a conveyor means recited in claim 26. Since Stimpson teaches that, using reagent jet printing, lines of different DNA samples such as cDNA libraries are applied to the sheet in lines or otherwise a pin applicator so that multiple dots from the pin overlap to form a line wherein the different reagent lines on the sheet are formed as close together as possible and with minimum line width allowed by the printing method so that array density is maximized (column 7, lines 19-48, column 8, third paragraph and Figure 2A), Stimpson discloses a plurality of applicator means (ie., reagent dispensers) as recited in claim 26. Since the sheet with different DNA sample is cut with a razor blade (for example, see column 14, last paragraph), Stimpson discloses a cutting means as recited in claim 26.

Therefore, Stimpson teaches all limitations recited in claims 6, 7, 21, 22, 25-29, and 31-33.

Response to Arguments

In page 12, first paragraph bridging to page 18, second paragraph of the amended appeal brief, appellant argues that: (1) applicator means of Stimpson do not “apply a reagent in lines in the longitudinal direction of the strip-like substrate”; (2) “there is no indication that the razor of

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Stimpson cuts a sheet-like substrate in a first direction into a plurality of strips”; and (3) “the cutting device of Stimpson is non-analogous to the claimed cutting means”.

These arguments have been fully considered but they are not persuasive toward the withdrawal of the rejection. First, the claims does not require that applicator means apply a reagent in lines in the longitudinal direction of the strip-like substrate as argued by appellant. Second, Stimpson does teach applicator means (ie., reagent dispensers) apply a reagent in lines in the longitudinal direction of the strip-like substrate (see Figure 2A). Third, since the specification does not define “cutting means” and claims 6 and 26 only require that a cutting means can cut a sheet-like substrate, and the razor blade taught by Stimpson (for example, see column 14, last paragraph) is a cutting means which can cut a sheet-like substrate in a first direction as recited in claims 6 and 26. Fourth, since the razor blade taught by Stimpson (for example, see column 14, last paragraph) is a cutting means, the razor blade taught by Stimpson is analogous to the claimed cutting means.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stimpson (July 16, 1997) as applied to claims 6, 7, 21, 22, 25-29, and 31-33 above, and further in view of Shuminov (US Patent No. 5,808,554, 102(e) date: July 2, 1997).

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The teachings of Stimpson have been summarized previously, *supra*.

Stimpson does not disclose a conveyor belt as recited in claim 23 and a guide rail as recited in claim 24. Since Stimpson teach that the sheet with different DNA samples is cut with a razor blade (for example, see column 14, last paragraph), the cutting means (ie., the razor blade) must have a cutting edge as recited in claim 24.

Shuminov teaches a conveyor belt and a guide rail. He teaches moisture detecting liner for a diaper and a process for manufacture thereof a production line for manufacturing the diaper. Figure 4a shows schematically a production line for manufacturing the diaper. The production line comprises a drum 48 constituting a first roll, which feeds a tissue-type material 49 under a guide rail 50 so that, as the absorbent layer 45 passes underneath the **guide rail 50**, the tissue-type layer 49 is compacted on to the absorbent layer 45 thus forming a composite layer which is cut by a **cutter 51** so that the tissue-type layer 49 extends along the complete length of the absorbent layer 45 and across the narrow section of its I-shaped contour. The composite layer passes along the **conveyor belt 46**, downstream of which are disposed, on opposite sides of the conveyor belt 46, a pair of drums 52 and 53 constituting, respectively, second and third rolls, which feed corresponding innermost and outermost layer material 54 and 55 so as to cover opposite surfaces of the composite layer comprising the absorbent layer 45 and the tissue-type layer 49. The resulting assembly is cut by a cutter 56 so as to produce the finished diaper (see Figure 4a and column 6, lines 5-21). The phrase “wherein said cutting edge moves along said guide rail” recited in claim 24 is a function of the cutting edge and is not a structural limitation.

Therefore, it would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to have added a conveyor belt as recited in claim 23 and a

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guide rail as recited in claim 24 into the apparatus recited in claim 6 in view of the patents of Stimpson and Shuminov. One having ordinary skill in the art would have been motivated to do so because addition of a guide rail and a conveyor belt onto the apparatus recited in claim 6 would add more functions onto the apparatus recited in claim 6 such as compacting a sheet (ie., a composition layer) by passing the sheet underneath of the guide rail and delivering a sheet (ie., a composition layer) to a cutter using the conveyor belt so that the sheet is cut to a designed size (ie., finished diaper) (see Shuminov, column 6, lines 5-21). One having ordinary skill in the art at the time the invention was made would have been a reasonable expectation of success to add a conveyor belt as recited in claim 23 and a guide rail as recited in claim 24 into the apparatus recited in claim 6.

Response to Arguments

In page 18, third paragraph bridging to page 20, fourth paragraph of the amended appeal brief, appellant argues that: (1) “[S]huminov is nonanalogous art”; (2) “[T]he Examiner's reasoning is clearly a result of impermissible hindsight”; and (3) “[T]he art cited by the Examiner do not disclose a cutting edge and a guide rail as claimed”.

These arguments have been fully considered but they are not persuasive toward the withdrawal of the rejection. First, although Shuminov's patent is not from biological field, Shuminov's patent is considered as an analogous art because both Stimpson (see column 8, third paragraph and Figure 2C) and Shuminov (see Figure 4a and column 6, lines 5-21) teach conveyor and “conveyor” is a key element to connect Stimpson's patent and Shuminov's patent. Second, in response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on

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obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Third, Shuminov does teach a cutting edge and a guide rail as claimed (see Figure 4a and column 6, lines 5-21).

6. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stimpson (July 16, 1997) in view of Shuminov (July 2, 1997) as applied to claims 6, 7, 21, 22-29, and 31-33 above, and further in view of Biedermann *et al.*, (US Patent No. 4,881,439, published on November 21, 1989).

The teachings of Stimpson and Shuminov have been summarized previously, *supra*.

Stimpson and Shuminov do not disclose a guide rail located on an upper body portion of said cutting means as recited in claim 30.

Biedermann *et al.*, teach a guide rail located on an upper body portion of a cutting means (ie., a cutter) (see Figure 4 and column 2, last paragraph).

Therefore, it would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to have added another guide rail into the apparatus recited in claim 6 wherein the another guide rail locates on an upper body portion of said cutting means as recited in claim 30 in view of the patents of Stimpson, Shuminov and Biedermann *et al.*. One having ordinary skill in the art would have been motivated to do so because addition of the another guide rail located on an upper body portion of said cutting means would provide a holder

for said cutting means (see Biedermann *et al.*, column 1, lines 36-44). One having ordinary skill in the art at the time the invention was made would have been a reasonable expectation of success to add another guide rail into the apparatus recited in claim 6 in order to provide a support for attaching a cutting means (ie., a cutter).

Response to Arguments

In page 20, last paragraph bridging to page 23, last paragraph of the amended appeal brief, appellant argues that: (1) “[T]he Examiner cited Shuminov guide rail 50 for teaching the claimed guard rail and cited the razor of Stimpson for teaching the claimed cutting means. See Office Action of July 27, 2005 at page 7. However, Stimpson col. 14, lines 51-60, describes that the spiral bundle is placed inside a metal tube whose inner diameter is slightly larger than the outer diameter of the bundle. The bundle is allowed to extend from the end of the metal tube and an array slab was cut with a razor blade using the metal tube as a guide to obtain a uniform straight cut. Therefore, it is unlikely that one of skill in the art would modify the cutting guide of Stimpson to include the guide rail 50 of Shuminov or the guide rail of Biedermann. Moreover, upon viewing the illustration of guide rail 50 of Shuminov (see Fig. 4a) it is unlikely that one of skill in the art would modify the guide rail 50 of Shuminov to form an upper body portion of the cutter 51 of Shuminov or that the guide rail 50 of Shuminov would be modified to include the guide rail 15 of Biedermann. In particular, such a modification would result in a substantial modification of the principle of operation of Shuminov”; and (2) “[T]he Examiner's suggestion to modify the cutting device of Stimpson is clearly a result of impermissible hindsight upon viewing the Appellant's invention”.

These arguments have been fully considered but they are not persuasive toward the

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withdrawal of the rejection. First, although Stimpson uses metal tube as a guide to obtain a uniform straight cut, appellant does not indicate why one having ordinary skill in the art at the time the invention was made cannot add another guide rail into the apparatus recited in claim 6 wherein the another guide rail locates on an upper body portion of said cutting means. Second, the rejection does not indicate to modify the guide rail 50 of Shuminov to form an upper body portion of the cutter 51 of Shuminov or that the guide rail 50 of Shuminov would be modified to include the guide rail 15 of Biedermann as argued by appellant. Third, in response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

8. No claim is allowed.
9. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CAR § 1.6(d)). The CM Fax Center number is (571)273-8300.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Lu, Ph.D., whose telephone number is (571)272-0746.

The examiner can normally be reached on Monday-Friday from 9 A.M. to 5 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached on (571)272-0735.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.



November 22, 2006

FRANK LU
PRIMARY EXAMINER